

Chem!stry

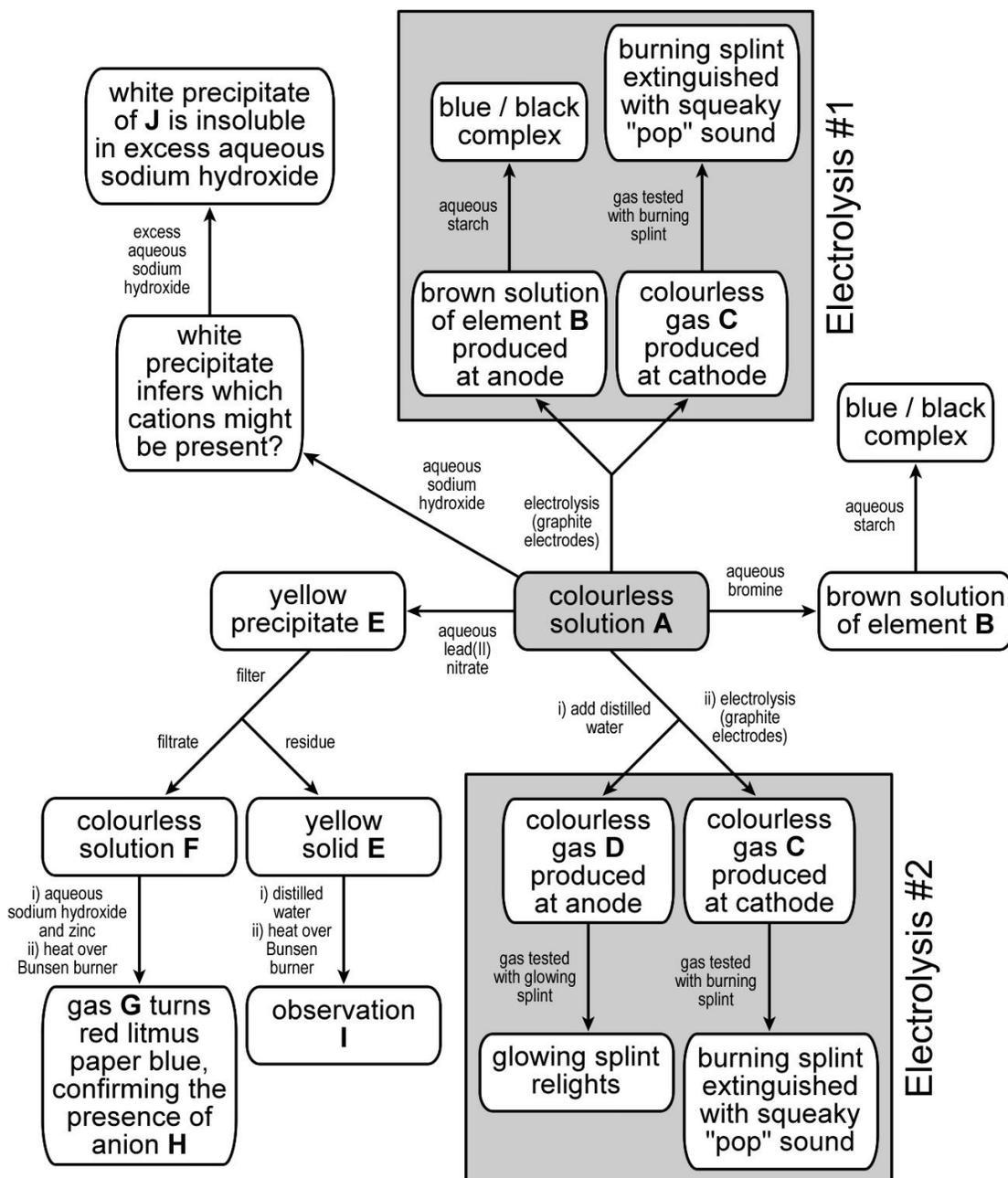
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Revision of Qualitative Analysis, Redox and Electrochemistry #2

Study the reaction sequence below, and then answer the questions on page 2.



Question 1: Using chemical formulae, identify chemicals **A** to **J**:

A is **B** is **C** is

D is **E** is **F** is

G is **H** is **J** is

Question 2:

Write the ionic equation for the reaction between solution **A** and aqueous bromine:

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Question 3:

Write the ionic equation for the reaction between solution **A** and aqueous lead(II) nitrate:

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Question 4:

When aqueous sodium hydroxide is added to solution **A**, a white precipitate is formed. This observation infers that which cations might be present in solution **A**?

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Question 5:

What is observed when yellow solid **E** is heated with distilled water?

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Question 6:

Write ionic half-equations to describe **Electrolysis 1** of solution **A**:

Anode: Cathode:

Question 7:

a) Write the ionic half-equation for the reaction at the anode during **Electrolysis 2** of solution **A**:

Anode:

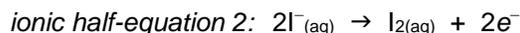
b) Explain why element **B** is produced at the anode during **Electrolysis 1**, but colourless gas **D** is produced at the anode during **Electrolysis 2**:

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Question 8:

If an acidified solution of potassium manganate(VII) is added to solution **A**, the following reactions take place:



a) Combine ionic half-equation 1 and ionic half-equation 2 together and hence write the overall ionic equation for the reaction:

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b) In the reaction between potassium manganate(VII) and solution **A**, clearly explain:

i) What has been oxidised:

ii) What has been reduced:

iii) What is the oxidising agent:

iv) What is the reducing agent:

- Click on the QR code given below to view the answers to this assignment.



http://www.chemist.sg/electro_chem/electro_chem_and_qa/electro_chem_qa_2_ans.pdf